Please amend the specification as follows:

Page 1, paragraph number 0001, please replace with the following:

[0001] This application claims priority This application claims priority to pending Provisional application number 60,261,714, filed on January 12, 2001 and pending United States Patent application number 09/797,745, filed March 1, 2001.

Page 2, paragraph number 0007, please replace with the following:

[0007] Several figures-of-merit are important in assessing the effectiveness of a receiver design. Sensitivity determines the ability of a receiver to detect a weak signal. Receiver sensitivity must be such that the receiver can detect the minimal discernible signal (MDS) from background noise. Noise represents random fluctuations in voltage and current. The MDS is a receiver-specific measure of sensitivity that incorporates the bandwidth of a given system. Receiver selectivity, on the other hand, indicates the protection afforded a receiver from off-channel interference. The greater the selectivity, the better the receiver can reject unwanted signals.

Page 2, paragraph number 0008, please replace with the following:

[0008] Desense is a reduction in a receiver's overall sensitivity due to man-made or natural radio frequency interference (RFI). Desense occurs when a very strong interfering signal overloads the receiver and makes the detection of weaker signals more difficult. The desensitization characteristic of the receiver determines its ability to operate successfully under strong interferers, such as jammers.

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method ~~for~~ of generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the method comprising:

receiving a signal, from a voltage controlled oscillator (VCO), having a VCO frequency;

dividing the VCO frequency by a number N to produce a signal having a divided-down frequency; and

mixing the signal having the VCO frequency with the signal having the divided-down frequency to produce an output signal having ~~an output~~ the LO frequency.

2. Canceled.

3. (Currently Amended) The method of claim 1, further comprising dividing the ~~output~~ LO frequency by a number M ~~to produce a second output frequency~~.

4. (Original) The method of claim 1, further comprising shifting the phase of the output signal.

5. Canceled.

6. (Original) The method of claim 1, wherein the device includes a receiver.

7. (Currently Amended) The method of claim 6, ~~wherein the output frequency is the LO frequency for the receiver,~~ further comprising mixing the output signal with a signal having an offset frequency to produce an LO frequency for a transmitter.

8. (Original) The method of claim 1, wherein the device includes a transmitter.

9. (Currently Amended) A method ~~for~~ of generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the method comprising:

receiving a signal, from a voltage controlled oscillator (VCO), having a VCO frequency;

dividing the VCO frequency by a number N to produce a signal having a divided-down frequency;

dividing the divided-down frequency by a number M to produce a second signal having a further divided-down frequency; and

mixing the signal having the VCO frequency with the second signal having the further divided-down frequency to produce an output signal having ~~an output~~ the LO frequency.

10. . (Currently Amended) The method of claim 9, further comprising dividing down the ~~output~~ LO frequency by a number P.

11. (Original) The method of claim 9, wherein the VCO is a multi-band VCO.

12. (Currently Amended) A method ~~for~~ of generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the method comprising:

configuring an LO generator to have one or more configurations, each configuration being associated with at least one frequency band of RF signals and producing an output signal whose frequency is associated with the at least one frequency band of RF signals, and to mix a VCO frequency with a divided-down version of the VCO frequency;

choosing a frequency band of RF signals; and

selecting a configuration associated with the chosen frequency band of RF signals.

13. (Original) The method of claim 12, further comprising controlling the LO generator based on the selecting.

14. (Currently Amended) A system for generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the system comprising:

a voltage controlled oscillator (VCO);

a divider having an input and an output produced by dividing an input signal, the divider input being operatively coupled to the VCO; and

a mixer having a first mixer input operatively coupled to the VCO, a second mixer input operatively coupled to the divider output, and an output providing the LO frequency.

15. Canceled.

16. (Original) The system of claim 14, wherein the VCO is external to a chip that includes the device.

17. (Original) The system of claim 16, wherein the VCO has a single-ended output.

18. (Original) The system of claim 14, wherein the VCO is integrated in a chip that includes the device.

19. (Original) The system of claim 14, wherein the VCO operates below a frequency of RF signals.

20. (Original) The system of claim 14, wherein the VCO operates above a frequency of RF signals.

21. (Original) The system of claim 14, wherein the VCO operates at frequencies between 1600 and 1788 MHz.

22. (Original) The system of claim 14, wherein the VCO is operatively coupled to a phase-locked loop (PLL), further comprising a second PLL and a second VCO for signals received when in a GPS mode, the second VCO operating at two times the frequency of received GPS signals.

23. (Original) The system of claim 22, further comprising a third PLL and a third VCO for signals received when in a Bluetooth mode.

24. (Original) The system of claim 14, wherein the mixer includes a single side band (SSB) mixer.

25. (Original) The system of claim 24, wherein the SSB mixer is a low side SSB mixer.

26. (Original) The system of claim 24, wherein the SSB mixer is a high side SSB mixer.

27. (Original) The system of claim 14, wherein the mixer output is operatively coupled to a phase-locked loop (PLL), wherein the PLL is internal to a chip that includes the device.

28. (Original) The system of claim 14, wherein the divider input is selectively coupled to the VCO.

29. (Original) The system of claim 28, wherein a switch selectively couples the divider input to the VCO.

30. (Original) The system of claim 29, wherein the switch is controlled by a switch control based on a band of the RF signals.

31. (Original) The system of claim 14, wherein the divider input is selectively coupled to the mixer output.

32. (Original) The system of claim 14, wherein the mixer output is selectively coupled to the VCO.

33. (Original) The system of claim 14, further comprising a phase shifter having an input coupled to the mixer output, the phase shifter having an output that produces quadrature signals.

34. (Original) The system of claim 33, wherein the phase shifter comprises an active phase shifter.

35. (Original) The system of claim 14, further comprising a second divider having an input operatively coupled to the mixer output and an output produced by dividing an input signal.

36. (Original) The system of claim 35, wherein the second divider divides by 2.

37. (Original) The system of claim 35, wherein the second divider outputs a first signal and a second signal, the first signal being 90 degrees out of phase of the second signal.

38. (Original) The system of claim 37, wherein the first signal drives one of an I and Q mixer in the device.

39. (Original) The system of claim 14, wherein

the device includes a receiver, wherein
a band of received RF signals is US PCS, and wherein:
the VCO operates between frequencies of 1716 MHz and 1769 MHz,
the divider divides by 8, and
the mixer is a high side SSB mixer.

40. (Original) The system of claim 14, wherein

the device includes a receiver, wherein

a band of received RF signals is IMT, and wherein:

the VCO operates between frequencies of 1688 MHz and 1736 MHz,

the divider divides by 4, and

the mixer is a high side SSB mixer.

41. (Original) The system of claim 14, wherein the device is included in a wireless communication transceiver.

42. (Original) The system of claim 14, wherein the device includes a transmitter.

43. (Original) The system of claim 42, wherein

a band of transmitted RF signals is US PCS, and wherein:

the VCO operates at frequencies between 1480 MHz and 1528 MHz,

the divider divides by 4, and

the mixer is a high side SSB mixer.

44. (Original) The system of claim 42, further comprising a first amplifier chain configured to operate in a first transmit frequency band, the amplifier chain being operatively coupled to an upconverter.

45. (Original) The system of claim 14, wherein the device includes a receiver, and further comprising an offset LO coupled to a third input of the mixer, wherein the mixer output provides an LO frequency for a transmitter.

46. (Original) The system of claim 14, wherein the first mixer input and the mixer output are differential.

47. (Original) The system of claim 14, wherein the device includes a receiver that incorporates differential signal paths.

48. (Original) A system for generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the system comprising:

a voltage controlled oscillator (VCO);

a first divider having an input and an output produced by dividing an input signal, the input of the first divider being operatively coupled to the VCO;

a second divider having an input and an output produced by dividing an input signal, the input of the second divider being operatively coupled to the output of the first divider; and

a mixer having a first mixer input operatively coupled to the output of the first divider, a second mixer input operatively coupled to the output of the second divider, and an output.

49. (Original) The system of claim 48, further comprising a third divider operatively coupled to the mixer output.

50. (Original) The system of claim 48, wherein the VCO is a multi-band VCO.

51. (Original) A system for generating a local oscillator (LO) frequency in a multi-band direct conversion wireless communication device, the system comprising:

an LO generator having one or more configurations, each configuration being associated with at least one frequency band of RF signals and producing an output signal whose frequency is associated with the at least one frequency band of RF signals, and a mixer configured to mix a VCO frequency with a divided-down version of the VCO frequency; and

a configuration selection mechanism arranged to select a configuration associated with a chosen frequency band of RF signals.

52. (Original) The system of claim 51, wherein the LO generator is controlled based on the configuration selection mechanism.--